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PHOTOGRAPHIC INTERPRETATION REPORT



**COMPARATIVE ANALYSIS
OF SOVIET MRBM AND
IRBM LAUNCH AREAS**

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OCTOBER 1965

COPY 1

21 PAGES

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Declass Review by NIMA/DOD

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PHOTOGRAPHIC INTERPRETATION REPORT

COMPARATIVE ANALYSIS OF SOVIET MRBM AND IRBM LAUNCH AREAS

OCTOBER 1965

NATIONAL PHOTOGRAPHIC INTERPRETATION CENTER

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INTRODUCTION

This report is issued in response to GMAIC requirement 18-65 and CIA requirement C-RR5-82,416, and in combination with NPIC PIR [] 1/ provides a complete review of all hard/soft MRBM/IRBM launch areas through [] [] []

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This review of 189 MRBM and IRBM launch areas and 1 MRBM launch facility was made to determine which were never completed or if any were abandoned after completion. Specific examination of each launch area was made to determine whether any soft sites had fewer than the normal 4 launch pads or fewer than the normally accepted number of 4 missile-ready buildings. A coincident review was made of all site support facilities []

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[] for indications of activity and significant changes.

SUMMARY

In summary, the improved scale, quality, and resolution of recent photography have revealed significant variations at 9 areas and variations of undetermined significance at a number of others. The designation of "variation" in this report means 1 or more deviations from norms previously established for launch and support facilities or from standards revealed within this overall survey. The 6 basic launch area types are illustrated in Figures 1 through 9; each of these typical areas contains all elements expected at a launch area in essentially the numbers and configurations that can be considered normal for an area of its type.

Major variations were identified at Krolevets IRBM Launch Area No 3 (TDI name: Bereza) and 8 other launch areas, with a suspected major variation at another. At

Krolevets No 3 two launch pads apparently were abandoned during a late stage of construction and 2 missile-ready buildings were never constructed. At Akhtyrka No 1, Korosten No 2, Lebedin No 3, Smorgon No 2, Usovo No 3 (TDI name: Lipniki), Zhitomir No 1, and Zhitomir No 3 (Berdichev) either 1 or 2 normally present missile-ready buildings were never constructed. At Lebedin No 2 evidence on available photography indicates that although 4 missile-ready buildings were constructed, 1 apparently has not been in use. This is readily apparent on snow-covered photography, on which vehicle tracks and activity are seen at all other missile-ready buildings but not at the one. Recent detailed examination of the Ugolnyy Launch Area has indicated that this area may be a combination MRBM and IRBM launch area, or possibly an IRBM area, rather than an MRBM launch area, as currently accepted.

Three launch areas, all hardened, have not been completed. No significant construction has been visible at Taybola No 3 or Novosysoyevka No 3 since [] while indeterminate activity at Aktyubinsk No 1 (TDI name: Karakhobda) does not appear to have advanced its construction status to any marked degree.

Examination of all site support facilities has revealed general similarities in structures and numbers of buildings necessary to support operational military units. Where scale and photo quality permit, barracks, site headquarters and administration buildings, heatplants, fire stations, probable command/control buildings, probable dining halls, probable supply and recreation/training buildings, guard posts, security fences, fuel and water storage facilities, and personnel shelters are generally readily identifiable at all installations. As might be anticipated, certain standard buildings appear

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FIGURE 1. KURGANCHA MRBM AREA NO 1.

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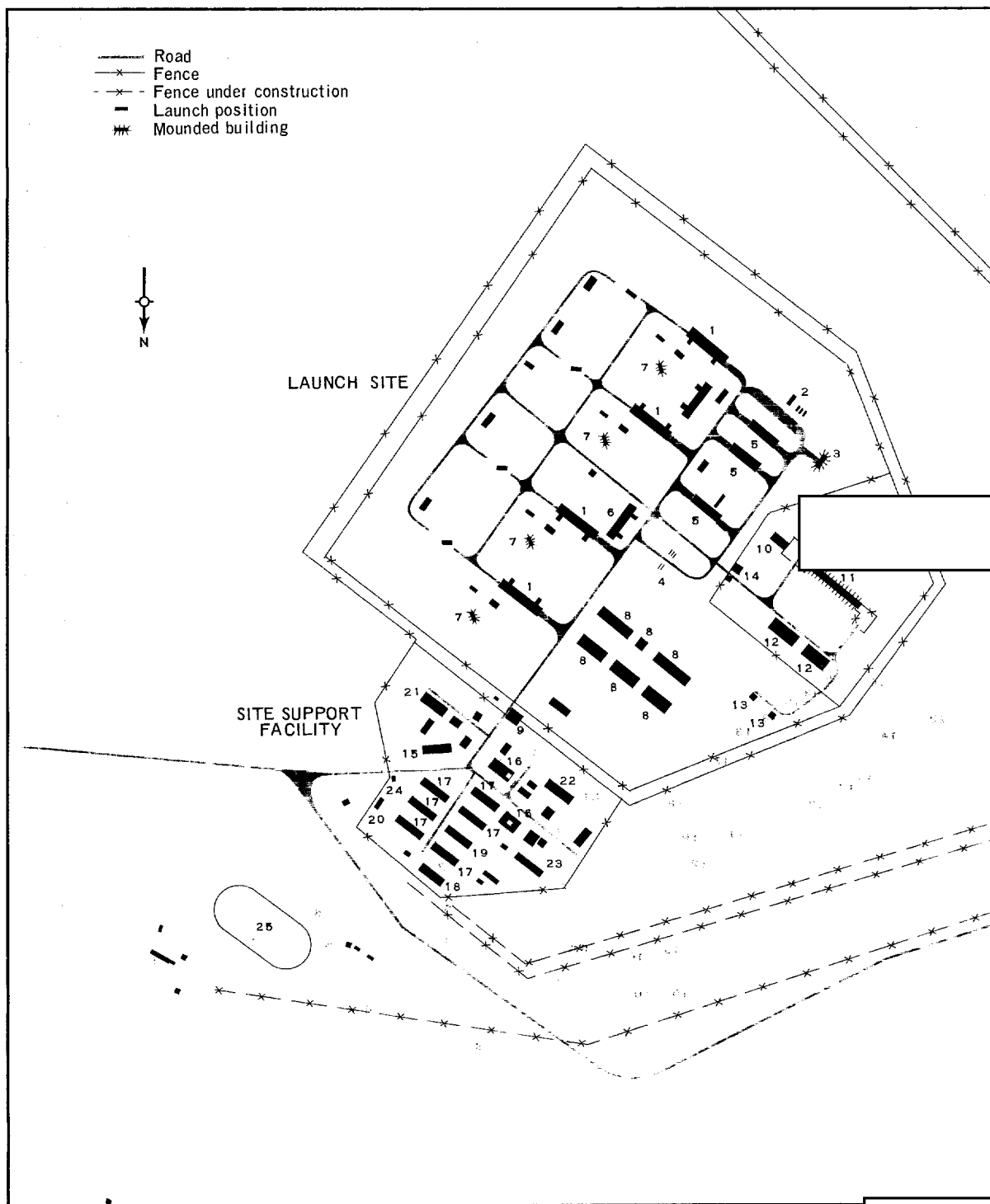
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FIGURE 2. KURGANCHA MRBM AREA NO 1. Type I (inline) soft site. Key to annotations in Table 1.

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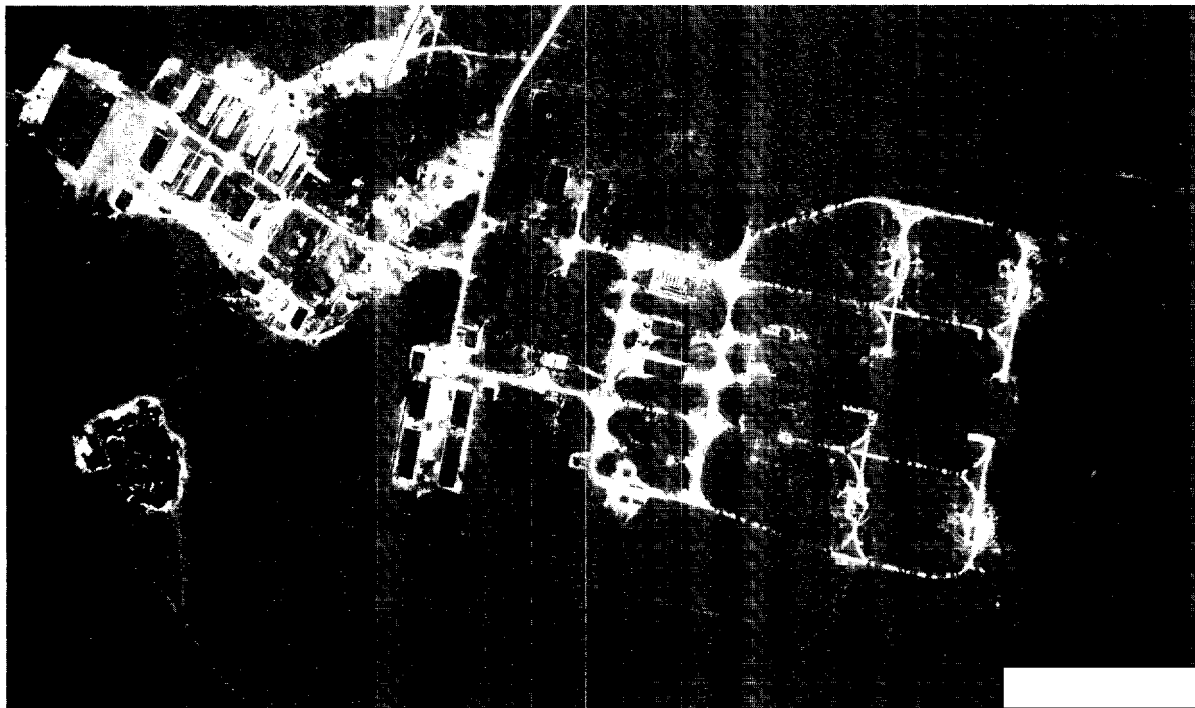
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FIGURE 3. OSTROV MRBM AREA NO 2. Type I (rectangular) soft site. Key to annotations in Table 1.

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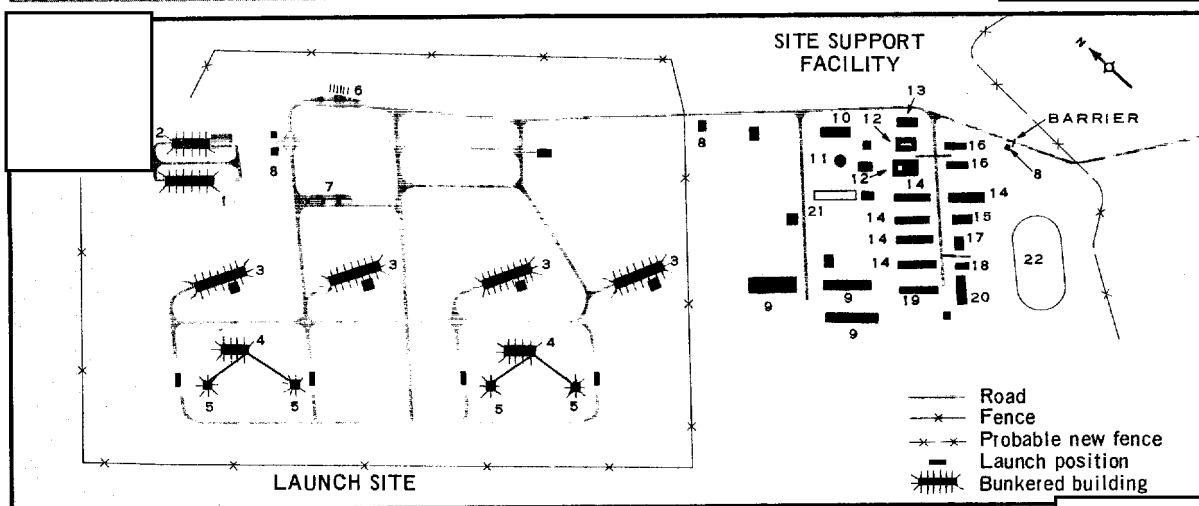


FIGURE 4. BALTA MRBM AREA NO 2. Type II, soft site. Key to annotations in Table 1.

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at each facility; however, layout of facilities is not rigid and varies from area to area and not only where terrain dictates such variations.

With 1 possible exception, it has not been possible from photography alone to determine which launch area of a complex is the headquarters of that particular complex, or, alternatively, if the complex headquarters is located away from the launch areas. Identification of HF communications facilities existing or under construction at over 80 per cent of the complexes may provide further indications of such head-

quarters locations, or possibly alternate headquarters; however, with the exception of a control building associated with the communications facility, no support facility variation has been identified that could confirm any launch area as a complex headquarters. The exception is at Uman Launch Area No 2 (TDI name: Mankovka) where 4 administrative-type buildings are located on a side road off the main access road from the support facility to the launch site. An HF communications site is under construction in the immediate vicinity

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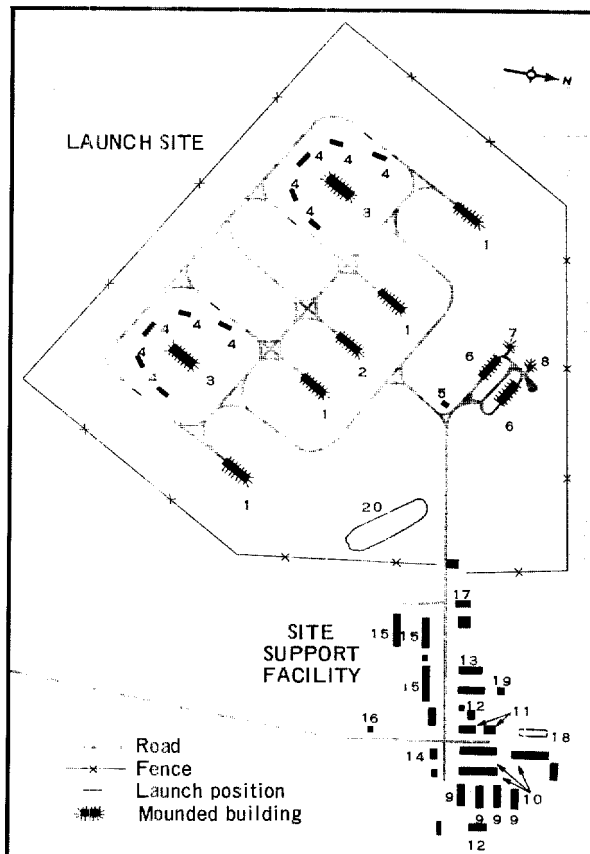
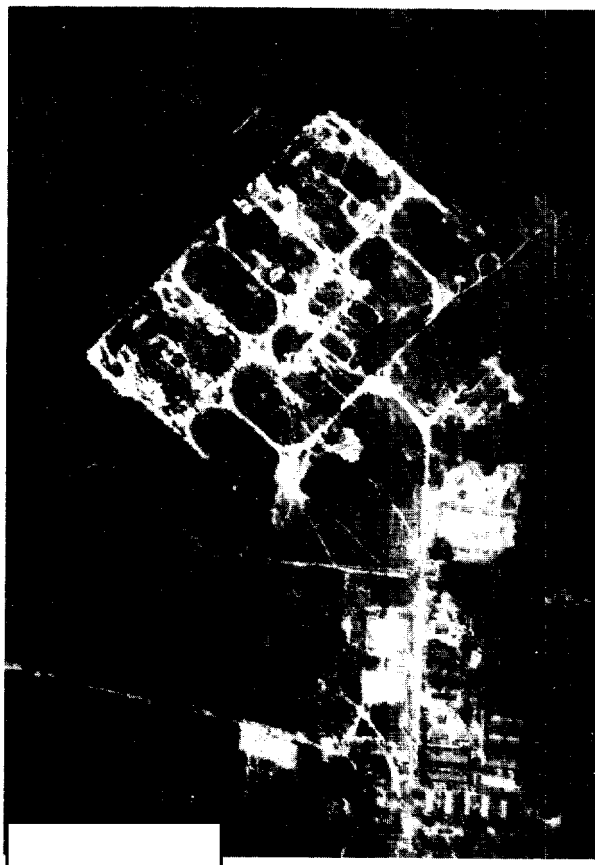


FIGURE 5. KROLEVETS IRBM AREA NO 2. Type III, soft site. Key to annotations in Table I.

of the launch area, which may tend to confirm these buildings as a complex, or higher, headquarters. These buildings are unique to this site and not observed at other areas with IIF facilities present or under construction.

Close examination of buildings within the support facilities has revealed a number of standard structures, such as barracks, garages, and, of particular interest, 2 that are probably associated with the operational aspects of the launch area as opposed to administration and support, since they can be identified at practically every facility; where they cannot be seen because of less than optimum photo quality, a building of similar shape can be located. The 2 building types are shown as Figures 10 and

11 and are designated Type A and Type B, respectively. The Type A structure is single story, measuring approximately [redacted] and has a central cupola approximately 35 by 25 feet. The Type B structure is also single story, measuring approximately [redacted]

[redacted] an end cupola approximately [redacted]. With exceptions noted later, the Type A building can be identified or is suspect at all site support facilities; frequently, but not always, the Type B is also present. The significance of the presence or absence of the Type B building cannot be assessed on photography alone. However, it can be determined that there is no correlation between the presence or absence of HF communications facilities

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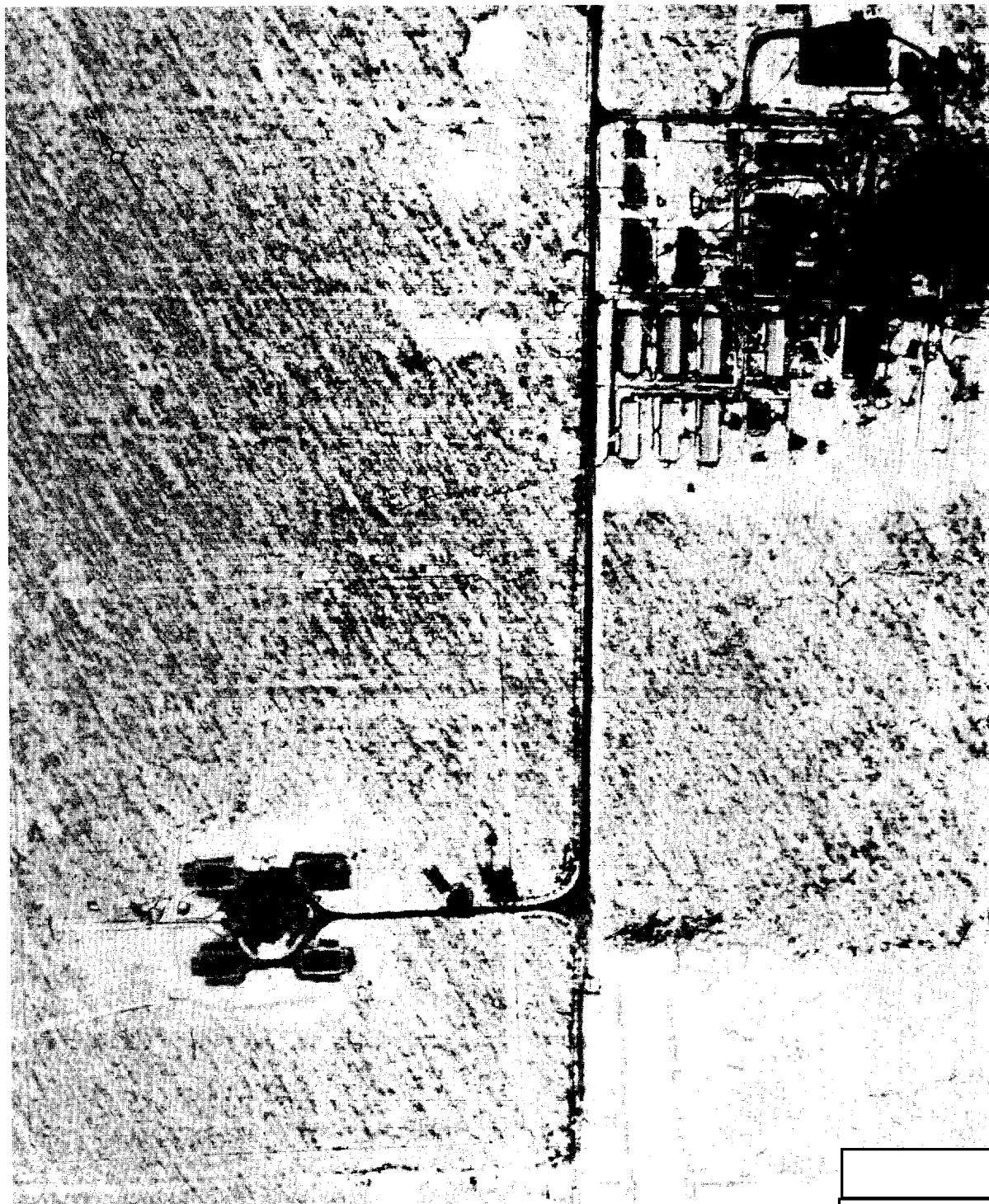


FIGURE 6. DROGOBYCH MRBM AREA NO 3.

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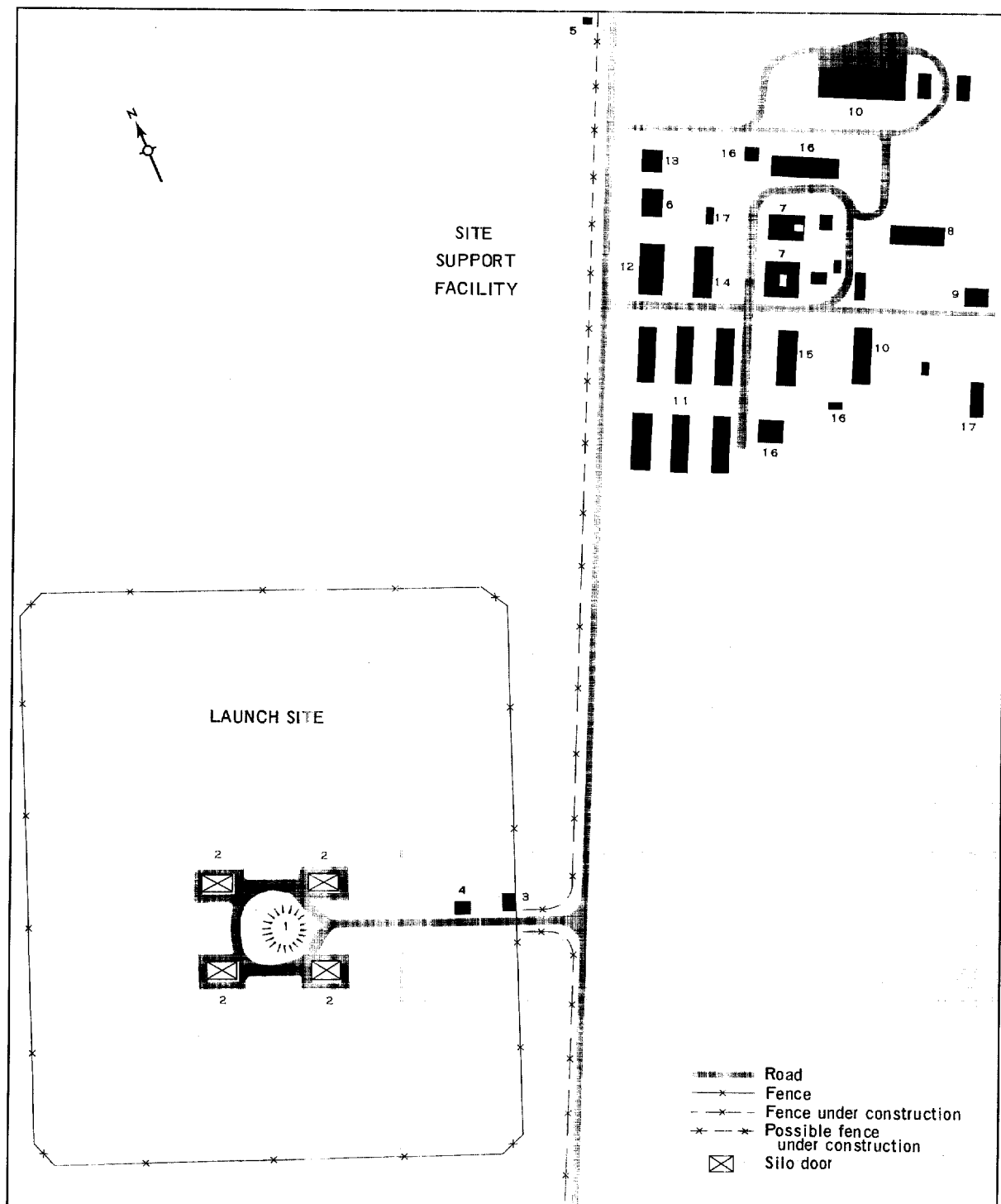


FIGURE 7. DROGOBYCH MRBM AREA NO 3. Type IV, hard MRBM site. Key to annotations in Table 7.

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FIGURE 8. GELLI IRBM AREA NO 2.

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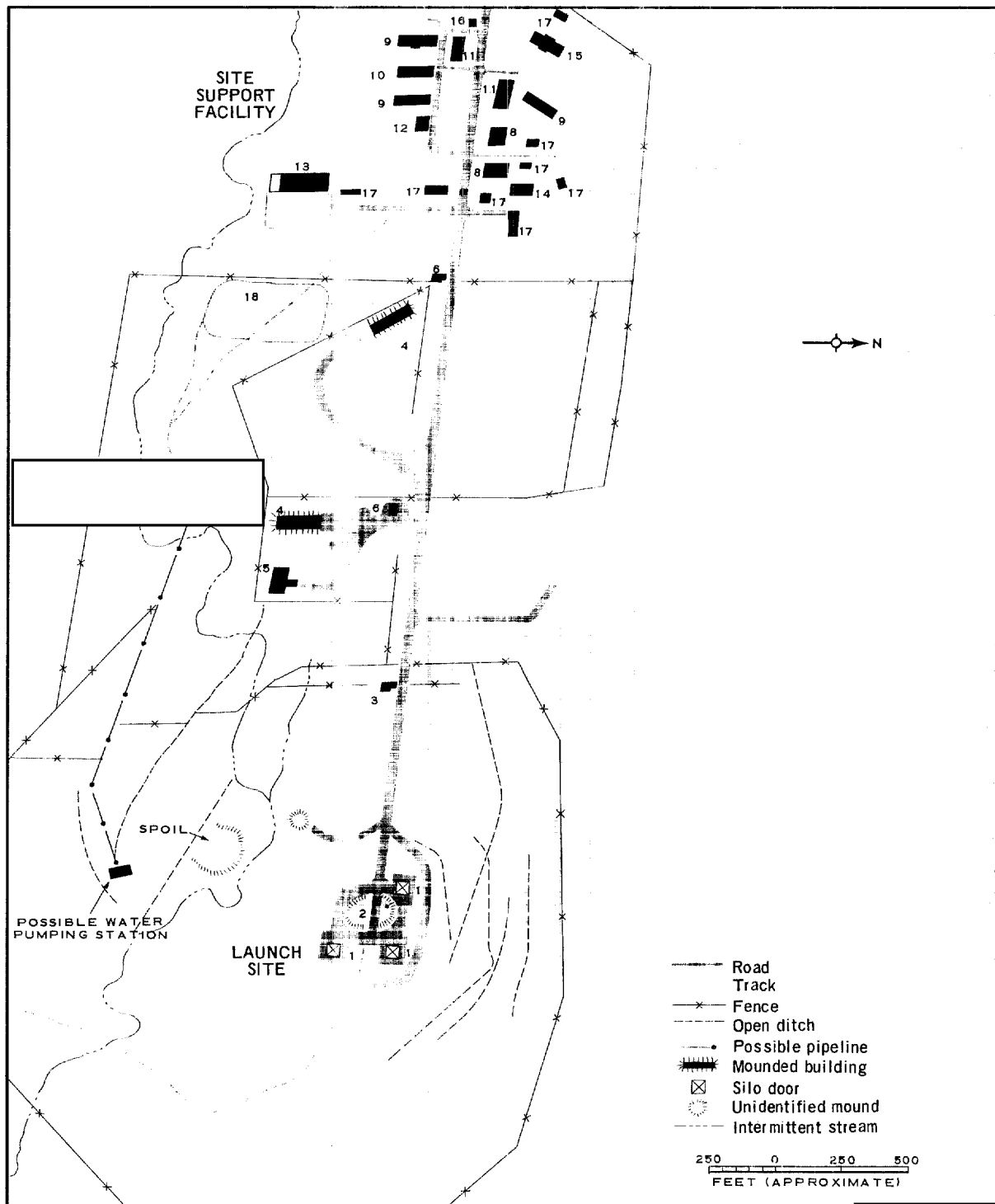


FIGURE 9. GELLI IRBM AREA NO 2. Type IV, hard IRBM site. Key to annotations in Table 1

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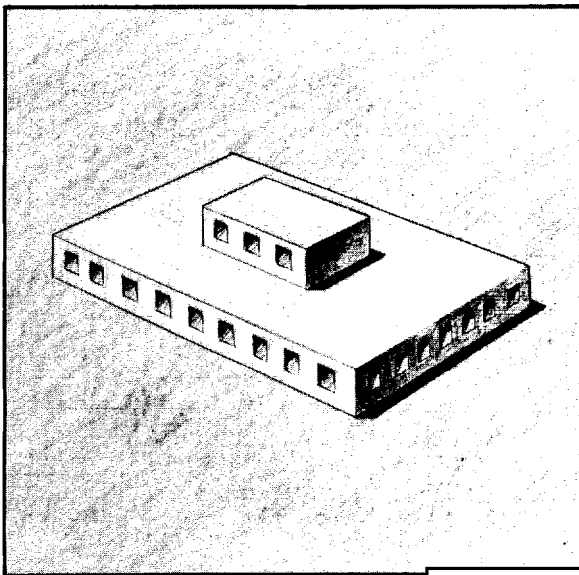


FIGURE 10. TYPE A BUILDING, WITH CENTRAL CUPOLA.

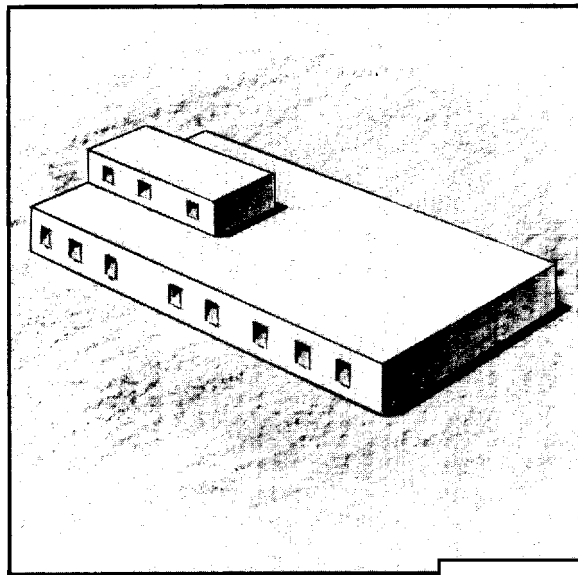


FIGURE 11. TYPE B BUILDING, WITH END CUPOLA.

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and the presence or absence of Type B buildings, nor is there any increase in barracks-type buildings where the Type B building is present. In numerous instances an earth-mounded shelter is found in close proximity to the rear of the building/buildings which may serve as a command post/shelter. Variations in the presence or absence of these buildings are most noticeable at Ugolnyy Launch Area, where no such building is present nor is any similarly shaped structure currently identifiable as under construction; Suchan No 1 (TDI name: Novitskoye) and Gvardeysk No 1 (TDI name: Gvardeysk 2) where none is present in the support facility but where a Type A occurs at the [REDACTED]

[REDACTED] and Sary Ozek No 1 and 3 (TDI names: Kara Babau 1 and 3). The support facility at Sary Ozek No 1 appears to provide all support for Sary Ozek No 3, since it contains more than the normal number of barracks and has an enlarged [REDACTED] in this facility there are 2 Type A buildings and 1 Type B, indicating that at least 1 is associated with Sary Ozek No 3. The Type

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A recent development in the technical section of soft MRBM launch areas has been the installation of 2 sets of tanks measuring approximately [REDACTED] on opposing sides of a loop road. One set of 3 opposes 1 set of 2, each in a rectangular clearing, protected by a low, earth mound on 4 sides, with access on the road side at the ends of the earth mound. These have not yet been identified at all areas; however, it is anticipated that similar tanks will be observed at many more areas when adequate photography is available. Apparently the tanks noted to date were installed between [REDACTED]

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[REDACTED] Accepted patterns of classes of facilities are consistent in practically every instance. Differences appear to be more for convenience of siting than for any other reason.

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Construction has also continued at many site support facilities during the winter period, primarily the construction of multistory, wall bearing, barracks-type buildings and garages. It appears that garages may be the last structures erected at a launch area, although frequently 1 large garage/vehicle maintenance building is erected at an early stage of the area construction. The ultimate number of garage/vehicle maintenance buildings appears to be 4 or 5 at most areas, although at Kurgancha No 1 (TDI name: Kurgancha 2) there are 8 and at Kurgancha No 2 (TDI name: Kurgancha 1) there were 10 until last fall, when at least 1 and perhaps 3 others were started.

LAUNCH AREA VARIATIONS

Figures 12 through 22 are individually annotated photographs of certain launch areas, with major variations briefly summarized. Throughout the period of review the 81 complexes and the launch facility have remained active, and numerous minor local changes and improvements have been noted that are not included in this report, such as construction of firing ranges and athletic fields and improvement of security by the addition of fences around entire launch areas, all of which tend to indicate an extended period of occupancy at the installations.

Krolevets IRBM Area No 3

(TDI Name: Bereza IRBM Launch Site)

Photography through [] indicated this site would have 4 launch pads and normal support facilities although only 2 missile-ready buildings were under construction. At some time after this date and prior to [] work on the 2 southernmost pads was dis-

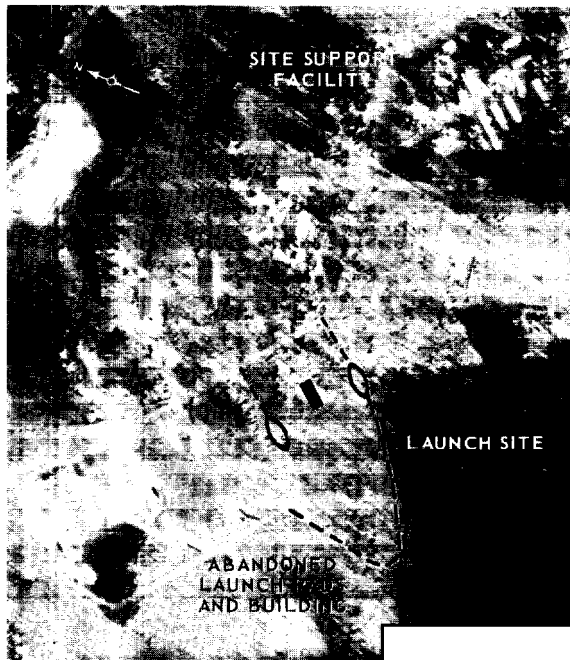


FIGURE 12. KROLEVETS IRBM AREA NO 3.

continued, a probable control building dismantled, and the service road pattern to these pads apparently abandoned. The site support facility is significantly smaller than those at full IRBM sites and contains only some 14 major buildings. The presence of only the Type B command/control building at this site rather than in combination with a Type A building also indicates construction was halted prior to support facility completion. On Mission [] no evidence of construction of missile-ready buildings existed and probable erectors were visible on only the 2 northernmost pads.

Akhtyrka MRBM Area No 1

Photography of poor interpretability precludes an accurate building count at this site for abnormality. Therefore, the only detectable variation is the absence of the right rear missile-ready building.

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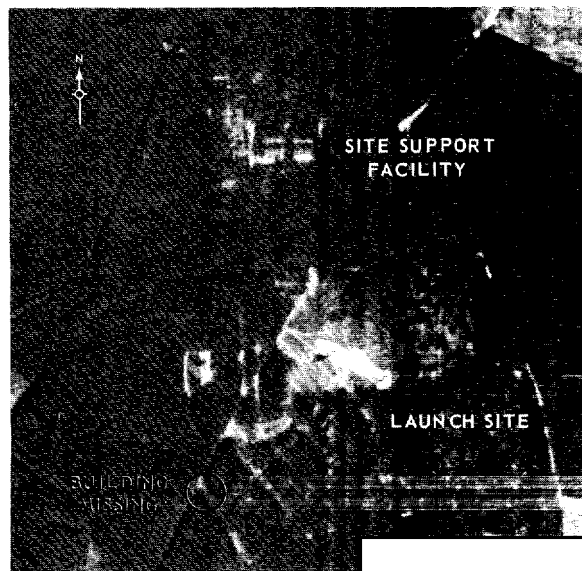


FIGURE 13. AKHTYRKA MRBM AREA NO 1.

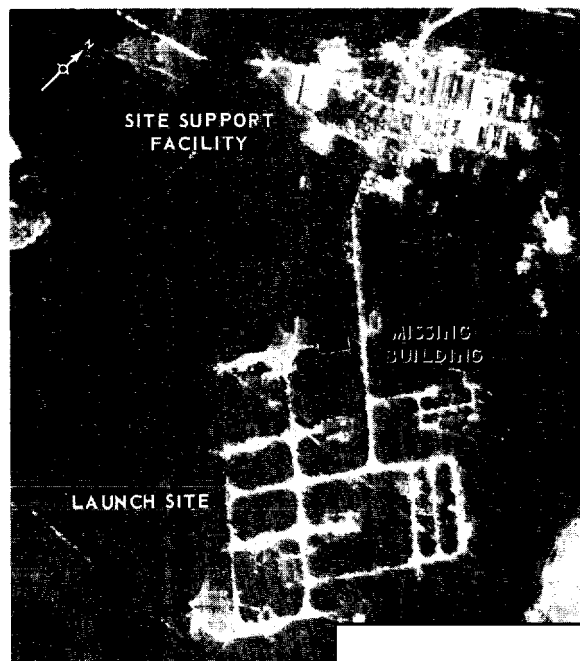


FIGURE 14. KOROSTEN MRBM AREA NO 2.

Korosten MRBM Area No 2

This Type II soft MRBM site is generally normal except for the absence of the right rear missile-ready building. A clearing was prepared for this structure during the construction phase; however, through Mission [redacted] no building has been erected and the access road remains inactive. While the remainder of the site is generally normal, 1 portion of the site support facility is physically separated from the main area for an undetermined reason. Where the large majority of soft MRBM facilities contains approximately 24 major structures, this facility has some 14 at 1 area and 10 more 3,000 feet to the west. This latter area has numerous linear scars similar to those at a tent camp, although available coverage does not permit identification of tents in the area.

Lebedin IRBM Area No 3

This Type III soft IRBM site has all normally accepted facilities with the exception of the right

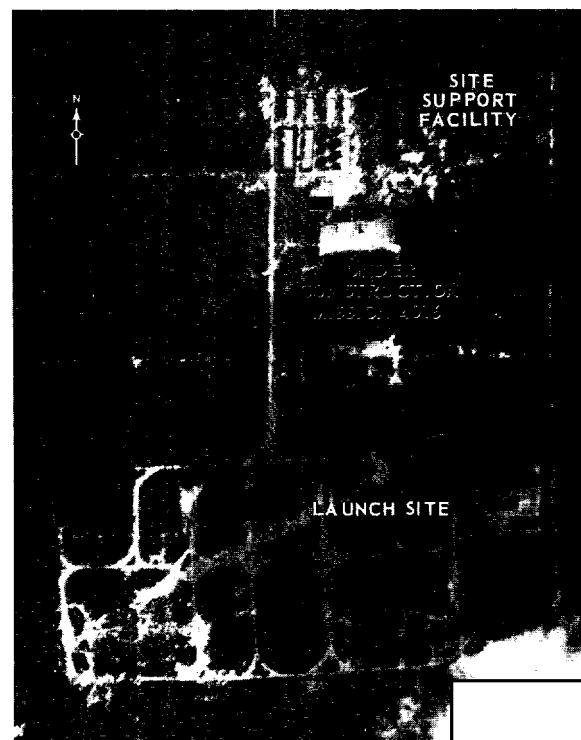


FIGURE 15. LEBEDIN IRBM AREA NO 3.

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rear missile-ready building. The site support facility was smaller than normal on Mission [redacted] however, the construction completed during the winter period of [redacted] [redacted] and the construction apparently underway in [redacted] will result in the facility approaching normal size.

Smorgon IRBM Area No 2

This soft Type III IRBM site apparently contains all normally expected buildings and facilities except for the 2 outer missile-ready buildings. Of particular interest at this site is the completion between [redacted] [redacted] of 3 buildings in the site support facility; the foundation for only 1 was visible on Mission [redacted] and the other 2 were begun after that mission. Further garage construction may be anticipated, as only 1 exists on latest available coverage.

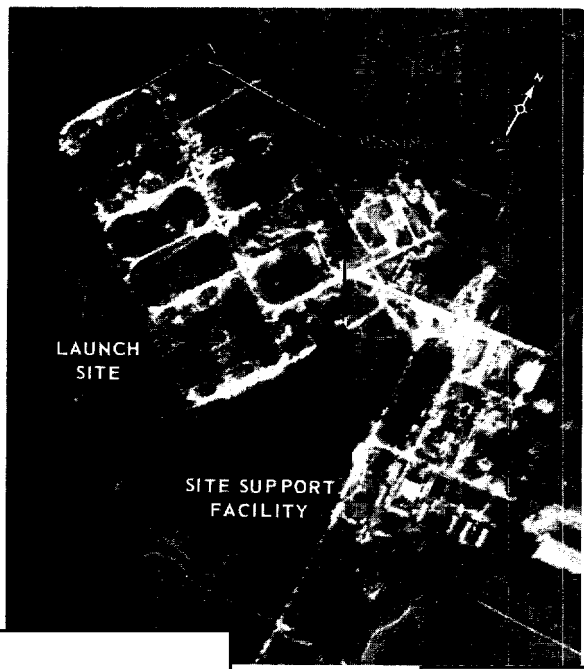


FIGURE 16. SMORGON IRBM AREA NO 2.

Usovo MRBM Area No 3

(TDI Name: Lipniki MRBM Launch Site)

This soft Type II MRBM site conforms generally to other complete sites with the exception of the missing left rear missile-ready building. Within the site support facility building numbers are within expected norms as a result of buildings newly completed or in the late stages of construction as seen on [redacted]

Although foundation for only 1 building was visible on Mission [redacted] three new buildings, including 1 garage, were visible on the [redacted]

Zhitomir MRBM Area No 1

This soft Type II MRBM launch area appears to contain all normally accepted buildings and



FIGURE 17. USOVO MRBM AREA NO 3.

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FIGURE 18. ZHITOMIR MRBM AREA NO 1.

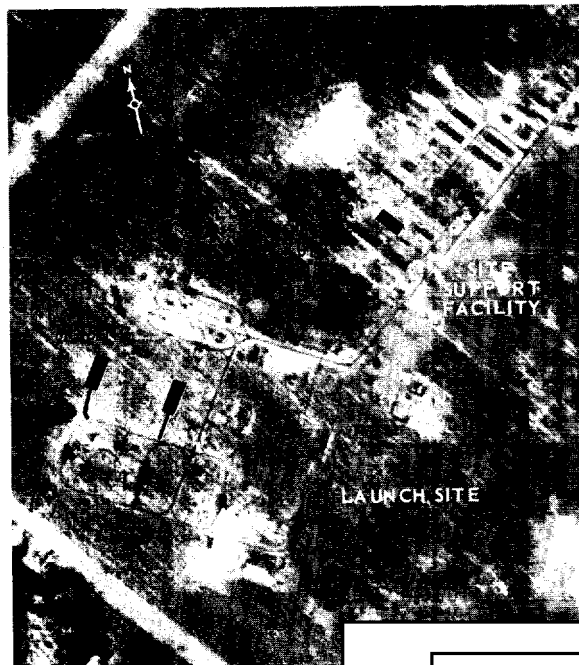


FIGURE 19. ZHITOMIR MRBM AREA NO 2.

structures, except for the absence of the right rear missile-ready building. The access road pattern to the building site is visible in all coverage although no activity is apparent on the road on latest coverage [REDACTED]

never been earth mounded and, while comparative coverage is less than adequate, no activity indicating use of this ready building has been observed. This is particularly evident on [REDACTED] on which vehicular tracks are visible in the snow to the other 3 missile-ready buildings and the central drive-in building but not to the referenced building.

Zhitomir MRBM Area No 3

(TDI Name: Berdichev MRBM Launch Site)

At this Type II soft MRBM launch area, all elements that are normally present at these sites are in place except for the 2 right rear missile-ready buildings. Preliminary clearing only is visible for the right outer building, while somewhat more preparation was made for the inner one.

Lebedin IRBM Area No 2

Although all missile-ready buildings and other facilities are present at this soft IRBM site, the left rear missile-ready building has

Ugolnyy MRBM Area

This soft site, nominally accepted as an MRBM site, has many variations of undetermined significance in both the launch and site support facilities. As a singly deployed site in a relatively isolated area, somewhat more than normal support facilities are anticipated and present at the facility. However, the primary difference is the orientation of 1 launch pad 90 degrees to the other 3. Of the 4 missile-ready buildings, 1 measures approximately 170 feet by 45 feet, while the other 3 are

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FIGURE 20. LEBEDIN IRBM AREA NO. 2.

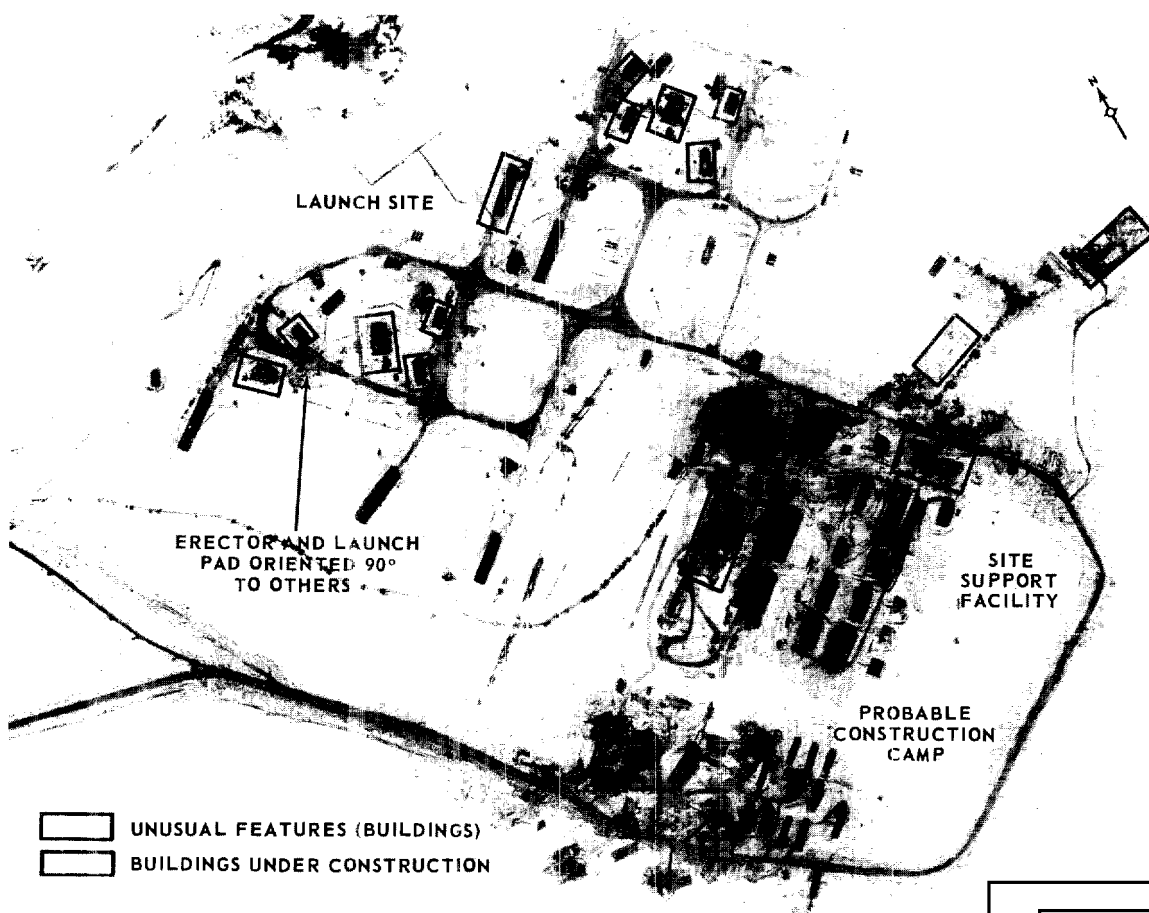


FIGURE 21. UGOLNYY MRBM AREA.

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approximately 215 by 45 feet. The probable launch control buildings are stepped up at 1 end and not mounded; their positioning along with the 2 other smaller buildings adjoining each launch pad closely resembles the comparable 3 buildings at soft IRBM sites, rather than those at MRBM sites. No command/control buildings of the same type existing at other MRBM or IRBM sites are visible, nor can any of those under construction be equated to either of the 2 normal types. On

the 1 probable erector on the pad oriented 90 degrees to the others is some 20 per cent smaller than the other 3 probable erectors; this percentage difference is apparently the same as the difference in size of the ready buildings. The site still is under construction and building progress was noted throughout the winter.

Uman MRBM Area No 2

(TDI Name: Mankovka MRBM Launch Site)

The 4 indicated buildings are not present at any other MRBM/IRBM launch area, nor are any normal structures absent within the site support facility that are routinely present. Therefore, in correlation with the HF communications facility under construction approximately 1,900 feet south of the site support

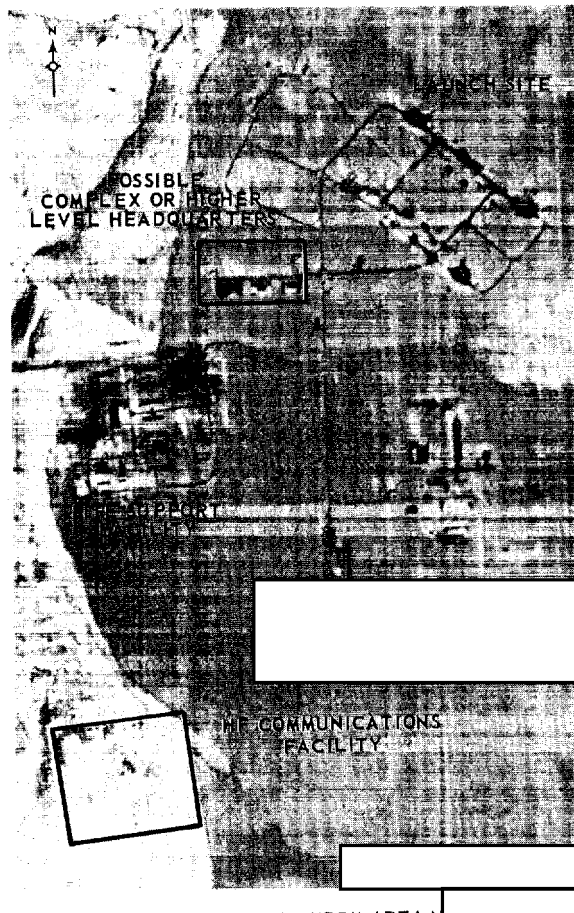


FIGURE 22. UMAN MRBM AREA NO 2.

facility, these buildings may be the location of a complex headquarters or some higher level authority.

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Table 1. Keys to Annotations in Figures 2 Through 9.

Key to annotations in Figure 2:

Launch Site

1. Drive-through missile-ready bldg (mounded)
2. Oxidizer/propellant
3. U/I bldg (mounded)
4. U/I tanks
5. Drive-through bldgs
6. Launch control bldgs
7. U/I mounded bldgs
8. Garages
9. Guard post

Site Support Facility

15. Prob site headquarters
16. Command/control bldgs
17. Single-story barracks
18. Multistory barracks
19. Prob messhall
20. Poss rec bldg
21. Garage
22. Heatplant
23. Bldg u/c
24. Guard post
25. Athletic field

Approx 15 other U/I structures

Key to annotations in Figure 3:

Launch Site

1. Missile-ready bldgs (bunkered)
2. Oxidizer/propellant tanks (6)
3. U/I tanks (5)
4. Prob launch control bldg (bunkered)
5. Drive-in bldgs (bunkered)
6. Drive-through bldgs

Site Support Facility

11. Heatplant
12. Storage tank (bunkered)
13. Single-story barracks
14. Multistory barracks
15. Poss messhall
16. Poss rec facility
17. Command/control bldgs
18. Prob site headquarters
19. Prob fire station
20. Athletic field
21. Guard post

At least 21 misc smaller structures

Key to annotations in Figure 4:

Launch Site

3. Missile-ready bldgs (bunkered)
4. Launch control bldgs (bunkered)
5. U/I bldgs (bunkered)
6. Oxidizer/propellant tanks (6)
7. U/I tanks (5)

Site Support Facility

9. Garages
10. Heatplant
11. Storage tank (semi-buried)
12. Prob command/control bldgs
13. Prob site headquarters
14. Barracks (single story)
15. Prob barracks (multistory)
16. Poss officers barracks
17. Poss training bldg
18. Poss recreation facility
19. Poss messhall
20. Poss supply/barracks
21. Bldg u/c
22. Athletic field

At least 8 other U/I bldgs

Key to annotations in Figure 5:

Launch Site

1. Drive-in missile-ready bldgs (mounded)
2. Drive-in bldg (mounded)
3. Control bldg (mounded)
4. Misc bldgs

Site Support Facility

9. Barracks (single story)
10. Barracks (multistory)
11. Command/control bldgs
12. Bunkers/shelters
13. Heatplant
14. Headquarters
15. Garage/vehicle maintenance
16. Guard post
17. Storage tanks
18. Bldg u/c
19. Prob fire station
20. Firing range

Approx 6 misc bldgs

Key to annotations in Figure 7:

Launch Site

1. Buried control bldg
2. Launch silos
3. Guard post
4. U/I bldg

Site Support Facility

5. Guard post
6. Headquarters bldg (prob)
7. Command/control bldgs
8. Heatplant
9. Fire station
10. Garage/vehicle maintenance bldg
11. Single-story barracks (6)
12. Multistory barracks
13. Prob admin bldg
14. Poss barracks (multistory)
15. Single-story barracks/messhall
16. Misc U/I bldgs
17. Poss shelters

Key to annotations in Figure 9:

Launch Site

1. Silos
2. Control bunker
3. Guard post

Site Support Facility

7. Heatplant
8. Command/control bldg
9. Barracks (single story)
10. Barracks/messhall (single story)
11. Barracks (multistory)
12. Prob headquarters
13. Garage/vehicle maintenance
14. U/I shop-type bldg
15. Prob training/recreation bldg
16. Guard post
17. Miscellaneous bldgs
18. Athletic field

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REFERENCES

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MAPS OR CHARTS

Various

DOCUMENT

1. NPIC. [redacted] *Soviet MRBM and IRBM Launch Areas Without Site Support Facilities*, May 65 (TOP SECRET)

REQUIREMENTS

GMAIC. 18-65

CIA. C-RR5-82,416

NPIC PROJECT

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